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SECTION 06100

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SECTION 06100

ROUGH CARPENTRY

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN FOREST AND PAPER ASSOCIATION (AFPA)

AFPA-T901 (1991; Supple 1993; Addenda Apr 95) National Design Specification for Wood Construction

AFPA T11-WCD1 (1988) Manual for Wood Frame Construction

AMERICAN INSTITUTE OF TIMBER CONSTRUCTION (AITC)

AITC-01 (1994) Timber Construction Manual

APA-THE ENGINEERED WOOD ASSOCIATION (APA)

APA EWS T300 (1997) Glulam Connection Details

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM F 547 (1977; R 1990) Definitions of Terms Relating to Nails for Use with Wood and Wood-Base Materials

AMERICAN WOOD-PRESERVERS' ASSOCIATION (AWPA)

AWPA C2 (1995) Lumber, Timber, Bridge Ties and Mine Ties - Preservative Treatment by Pressure Processes

AWPA C9 (1995) Plywood - Preservative Treatment by Pressure Processes

AWPA C20 (1993) Structural Lumber Fire-Retardant Pressure Treatment

AWPA C27 (1993) Plywood - Fire-Retardant Pressure Treatment

AWPA M4 (1995) Standard for the Care of Preservative-Treated Wood Products

AWPA P5 (1996) Standards for Waterborne Preservatives

DEPARTMENT OF COMMERCE (DOC)

DOC PS 1 (1996) Voluntary Product Standard -
Construction and Industrial Plywood

TRUSS PLATE INSTITUTE (TPI)

TPI 1 (1995) National Design Standard for Metal
Plate-Connected Wood Truss Construction
and Commentary and Appendices to TPI 1

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-13 Certificates

Grading and Marking; FIO.

Manufacturer's certificates (approved by an American Lumber Standards approved agency) attesting that lumber and material not normally grade marked meets the specified requirements.

1.3 DELIVERY AND STORAGE

Materials shall be delivered to the site in undamaged condition, stored off ground in fully covered, well ventilated areas, and protected from extreme changes in temperature and humidity.

PART 2 PRODUCTS

2.1 GRADING AND MARKING

2.1.1 Lumber Products

Solid sawn and finger-jointed lumber shall bear an authorized grade stamp or grade mark recognized by ALSC, or an ALSC recognized certification stamp, mark, or hammerbrand. Surfaces that are to be exposed to view shall not bear grademarks, stamps, or any type of identifying mark. Hammer marking will be permitted on timbers when all surfaces will be exposed to view.

2.1.2 Fabricated Structural Members

Wood trusses shall be fabricated in accordance with TPI 1. Laminated timbers shall be marked with a quality mark indicating conformance to AITC ANSI/AITC-190.1. Engineered wood joists and rafters shall be fabricated using an approved quality control system to meet specified requirements.

2.1.3 Plywood and other Sheathing Products

Materials shall bear the grademark or other identifying marks indicating grades of material and rules or standards under which produced, including requirements for qualifications and authority of the inspection

organization. Except for plywood and structural-use panels, bundle marking will be permitted in lieu of marking each individual piece. Surfaces that are to be exposed to view shall not bear grademarks or other types of identifying marks.

2.1.4 Sizes

Lumber and material sizes shall conform to requirements of the rules or standards under which produced. Unless otherwise specified, lumber shall be surfaced on four sides. Unless otherwise specified, sizes indicated are nominal sizes, and actual sizes shall be within manufacturing tolerances allowed by the standard under which the product is produced.

2.1.5 Treatment

Exposed areas of treated wood that are cut or drilled after treatment shall receive a field treatment in accordance with AWPA M4. Items of all-heart material of cedar, cypress, or redwood will not require preservative treatment, except when in direct contact with soil. Except as specified for all-heart material of the previously mentioned species, the following items shall be treated:

- a. Wood members exposed to the weather including those used in builtup roofing systems or as nailing strips or nailers over fiberboard or gypsum-board wall sheathing as a base for wood siding.
- b. Wood members set into concrete regardless of location, including flush-with-deck wood nailers for roofs.
- c. Wood members in contact with concrete that is in contact with soil or water or that is exposed to weather.

2.1.5.1 Lumber and Timbers

Lumber and timbers shall be treated in accordance with AWPA C2 with waterborne preservatives listed in AWPA P5 to a retention level as follows:

- a. 0.25 pcf intended for above ground use.
- b. 0.40 pcf intended for ground contact and fresh water use.

2.1.5.2 Plywood

Plywood shall be treated in accordance with AWPA C9 with waterborne preservatives listed in AWPA P5 to a retention level as follows:

- a. 0.25 pcf intended for above ground use.
- b. 0.40 pcf intended for ground contact and fresh water use.

2.1.6 Moisture Content

At the time lumber and other materials are delivered and when installed in the work their moisture content shall be as follows:

- a. Treated and Untreated Lumber Except Roof Planking: 4 inches or less, nominal thickness, 19 percent maximum. 5 inches or more, nominal thickness, 23 percent maximum in a 3 inch perimeter of

the timber cross-section.

b. Roof Planking: 15 percent maximum.

c. Materials Other Than Lumber: In accordance with standard under which product is produced.

2.1.7 Fire-Retardant Treatment

Fire-retardant treated wood shall be pressure treated in accordance with AWPA C20 for lumber and AWPA C27 for plywood. Material use shall be defined in AWPA C20 and AWPA C27. Treatment and performance inspection shall be by an independent and qualified testing agency that establishes performance ratings. Each piece or bundle of treated material shall bear identification of the testing agency to indicate performance in accordance with such rating.

2.1.8 Structural Wood Members

Species and grades shall be as listed in AFPA-T901. Design of members and fastenings shall conform to AITC-01. Other stress graded or dimensioned items such as blocking, carriages, and studs shall be standard or No. 2 grade except that studs may be Stud grade.

2.1.9 Plywood

Plywood for general use shall conform to DOC PS 1, Grade C-D, exterior grade and thickness as shown or required.

2.1.10 Nonstress Graded Members

Members shall include bucks, blocking, and nailers. Members shall be standard grade or No. 2 grade. Nonstress member grades shall conform to the National Grading Rule for Dimension Lumber established in conformance with Prod Std PS 20 and as applied in individual grading rules of applicable grading agencies. For species graded under other grading rules, grade used shall be equivalent to grades outlined above. Sizes shall be as follows, unless otherwise shown.

Member	Size (inch)
Blocking	2 x 4 or larger size as required, smaller sizes for specific use as approved
Nailing strips & Backs	2 inch stock.

2.2 ACCESSORIES AND NAILS

Markings shall identify both the strength grade and the manufacturer. Accessories and nails shall conform to the following:

2.2.1 Bolts: Lag, Toggle, and Miscellaneous Bolts and Screws

Type, size, and finish best suited for intended use. Finish options include zinc compounds, cadmium, and aluminum paint impregnated finishes.

2.2.2 Nails and Staples

ASTM F 547, size and type best suited for purpose; staples shall be as recommended by the manufacturer of the materials to be joined. In general, 8-penny or larger nails shall be used for nailing through 1 inch thick lumber and for toe nailing 2 inch thick lumber; 16-penny or larger nails shall be used for nailing through 2 inch thick lumber. Nails used with treated lumber and sheathing shall be galvanized. Nailing shall be in accordance with the recommended nailing schedule contained in AFPA T11-WCD1.

2.2.3 Timber Connectors

Unless otherwise specified, timber connectors shall be in accordance with TPI 1, APA EWS T300 or AITC-01.

PART 3 EXECUTION

3.1 General

Members shall be closely fitted, accurately set to required lines and levels, and rigidly secured in place. Nailing shall be in accordance with the Recommended Nailing Schedule as contained in NFPA Manual for House Framing. Where detailed nailing requirements are not specified, nail size and nail spacing shall be sufficient to develop an adequate strength for the connection without splitting the members.

3.2 Structural Members

Members shall be adequately braced before erection. Members shall be aligned and all connections completed before removal of bracing. Individually wrapped members shall be unwrapped only after adequate protection by a roof or other cover has been provided. Scratches and abrasions of factory-applied sealer shall be treated with two brush coats of the same sealer used at the factory.

3.3 Blocking

Blocking shall be provided as necessary for application of building items, such as roofing, parapet cap flashing, windows, and doors. Blocking shall be cut to fit between framing members and rigidly nailed thereto.

3.4 Nailers and Nailing Strips

Nailers and nailing strips shall be provided as necessary for the attachment of finish materials. Nailers used in conjunction with roof deck installation shall be installed flush with the roof insulation system. Anchors shall extend through the entire thickness of the nailer. Strips shall be run in lengths as long as practicable, butt jointed, cut into wood framing members when necessary, and rigidly secured in place.

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SECTION 06200

FINISH CARPENTRY

PART 1 GENERAL

The work under this section shall include the furnishing, fabricating, and installation of millwork, shelving, casework, and locker room benches.

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM F 547 (1977; R 1990) Definitions of Terms
Relating to Nails for Use with Wood and
Wood-Base Materials

ARCHITECTURAL WOODWORK INSTITUTE (AWI)

AWI-02 (1994) Architectural Woodwork Quality
Standards, Guide Specifications and
Quality Certification Program

WESTERN WOOD PRODUCTS ASSOCIATION (WWPA)

WWPA-01 (1995; Supple Nos. 1, 2, and 3) Western
Lumber Grading Rules 95

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-04 Drawings

Finish Carpentry; GA.

Drawings showing fabricated items and special mill items, and woodwork items. Drawings shall indicate materials and details of construction, methods of fastening, erection, and installation.

SD-14 Samples

Plastic Laminate; GA.

Samples shall be of sufficient size to show patterns, color ranges, and types.

1.3 DELIVERY AND STORAGE

Materials shall be delivered to the site in undamaged condition, stored off ground in fully covered, well-ventilated areas, and protected from extreme changes in temperature and humidity.

PART 2 PRODUCTS

2.1 GENERAL REQUIREMENTS

2.1.1 Grading and Marking

Materials shall bear the grademark, stamp or other identifying marks indicating grades of material and rules or standards under which produced. Such identifying marks on a material shall be in accordance with the rule or standard under which the material is produced, including requirements for qualifications and authority of the inspection organization, usage of authorized identification, and information included in the identification. The inspection agency for lumber shall be certified by the Board of Review, American Lumber Standards Committee, to grade the species used. Except for plywood, structural-use panels, and lumber, bundle marking will be permitted in lieu of marking each individual piece. Surfaces that are to be architecturally exposed to view shall not bear grademarks, stamps, or other types of identifying marks.

2.1.2 Sizes and Patterns

Lumber sizes and patterns shall conform to rules or standards under which produced. Unless otherwise specified, lumber shall be surfaced on four sides. Sizes and patterns for materials other than lumber shall conform to requirements of the rules or standards under which produced. Size references, unless otherwise specified, are nominal sizes, and actual sizes shall be within manufacturing tolerances allowed by the standard under which the product is produced.

2.1.3 Moisture Content

Moisture content shall be in accordance with the standard under which the product is produced.

2.2 MATERIALS

2.2.1 Utility Shelving

Utility shelving shall be a suitable species equal to or exceeding requirements of No. 3 common white fir under WWPA-01 Western Lumber Grading Rules, 1 inch thick or plywood, interior type, Grade A-B, ½ inch thick, any species group with solid wood edge or plastic "T" molding trim at the front.

2.2.2 Custom Casework

Casework shall conform to AWI-02 "Custom" Grade; exposed surfaces shall have plastic laminate application. Drawers shall be constructed in conformance with the requirements of "Custom" Grade, or equivalent, and metal drawer slides are required for all drawers. Style shall be flush, frameless. Wire pulls with brushed aluminum finish shall be provided for all doors and drawers of all plastic laminate face casework. Vertical grade plastic laminate may be used for surfaces other than work surface and countertops. Balancing sheet shall be provided. Casework shall be

provided in custom-patterned design as indicated of three colors. All colors and patterns to be as selected from manufacturer's standards. Desk drawers shall be furnished with locks. Provide three keys for each lock. All locks to have different keys.

2.2.3 Locker Room Benches

Locker room benches shall be clear hard maple. Bench tops may be glued-up sections. Base pedestals are specified in SECTION: TOILET ACCESSORIES.

2.2.4 Nails

The size and type of nails, screws or fasteners best suited for the purpose shall be used. Nail descriptions noted on any as-builts, submittals, or correspondence shall be in accordance with ASTM F 547.

PART 3 EXECUTION

3.1 SHELVING

Shelving shall be anchored to supporting construction. Unless otherwise indicated, shelves shall be supported by adjustable shelf hardware of channel-shaped, steel standards, with adjustment slots spaced at approximately 1 inch centers and brackets designed for attachment to standards.

3.2 WORKBENCHES AND CASEWORK

Items shall be anchored in place as indicated.

-- End of Section --